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10/540,416	06/24/2005	Hajime Fukui	1232-5691	9225
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MORGAN & FINNEGAN, L.L.P. 3 WORLD FINANCIAL CENTER NEW YORK, NY 10281-2101				
EXAMINER				
JERABEK, KELLY L				
ART UNIT		PAPER NUMBER		
2622				
NOTIFICATION DATE		DELIVERY MODE		
10/09/2008		ELECTRONIC		

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Notice of the Office communication was sent electronically on above-indicated "Notification Date" to the following e-mail address(es):

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Office Action Summary

Application No.

10/540,416

Applicant(s)

FUKUI, HAJIME

Examiner

KELLY L. JERABEK

Art Unit

2622

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 03 July 2008.
2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-26 is/are pending in the application.
4a) Of the above claim(s) _____ is/are withdrawn from consideration.
5) ☐ Claim(s) _____ is/are allowed.
6) ☒ Claim(s) 1-26 is/are rejected.
7) ☐ Claim(s) _____ is/are objected to.
8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
10) ☒ The drawing(s) filed on 16 November 2006 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☐ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☒ Information Disclosure Statement(s) (PTO-8508)
Paper No(s)/Mail Date _____
4) ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date _____
5) ☐ Notice of Informal Patent Application
6) ☐ Other: _____

DETAILED ACTION

Response to Arguments

Applicant's arguments filed 7/3/2008 have been fully considered but they are not persuasive.

Response to Remarks:

Applicant's arguments regarding claim 1 (Amendment pages 11 and 12) state that the features of amended claim 1 make it possible to detect an object by extracting the edge of an image of an object when a brightness of the object is less than a predetermined value. The Examiner respectfully disagrees. The claims do not include any language disclosing that an edge of an image of an object is extracted. The claims only disclose detecting an area occupied by a predetermined shape and therefore the teaching of extracting an edge of an image of an object is not currently being claimed.

Applicant's arguments regarding claim 1 (Amendment page 12) state that the Sannoh and Nozaki references do not teach or suggest the features that perform a pre-light emission when it is determined that it is necessary to emit light by a light emitting unit upon photographing an object, in order to detect an area occupied by a predetermined shape in an image of the object. The Examiner respectfully disagrees.

The Examiner maintains that the combination of the Sannoh and Nozaki references discloses all of the limitations of amended claim 1.

Re claim 1, Sannoh discloses an image capturing apparatus (digital camera) and method of controlling an image capturing apparatus (digital camera) comprising: a lighting determination unit (CPU 115a) configured to determine whether or not it is necessary to emit light by a light emitting unit (203) upon photographing an object, on the basis of a brightness (photometric value) of the object (page 13, paragraph 195-page 15, paragraph 218; figures 2 and 20-24); an area detection unit (CPU 115a) configured to cause the light emitting unit (203) to emit light, to extract an outline of a captured image of the object that receives light emitted by the light emitting unit (203) and to detect an area occupied by a predetermined shape in the captured image (CPU 115a performs face detection processing), in a case that said lighting determination unit (CPU 115a) determines it is necessary to emit light by the light emitting unit (when the photometric value is less than a certain threshold) (page 6, paragraphs 9"-102; page 13, paragraph 195; page 14, paragraphs 203-212); and a control unit (CPU 115a) configured to control an image capturing operation to obtain a captured image for the purpose of saving of image data of the object, on the basis of information in the area detected by the area detection unit (CPU 115a performing face detection processing) (page 13, paragraph 195-page 15, paragraph 218). Sannoh further states that the control method disclosed may be executed through the use of a computer-readable storage medium storing a program (page 4, paragraph 69).). However, although the Sannoh reference discloses all of the above limitations it fails to specifically state that

the auto-exposure and face detection processing includes a pre-light emission operation and that a main light emitting amount is calculated in accordance with a photometry value based on a pre-light emission.

Nozaki discloses a digital camera system including face detection processing and auto-exposure processing. Nozaki states that when the luminance of a subject is less than a given value, a CPU of the camera sets a pre-emitting mode for emitting light prior to shooting and the emission quantity of a main light emitting amount is determined on the basis of the reflected light from the face upon the pre-emission of light (page 11, paragraph 117-page 12, paragraph 120). Therefore, it would have been obvious for one skilled in the art to have been motivated to include a pre-emitting mode for determining a proper emission amount of a main light emission as disclosed by Nozaki in the digital camera including auto-exposure and face detection processing disclosed by Sannoh. Doing so would provide a means for ensuring that an image of a subject is captured with a proper exposure.

Applicant's arguments regarding independent claims 3, 11, 12, 13 and 15 (Amendment pages 12-13) state that the claims are patentably distinguishable over the cited references at least for reasons similar to those advanced for amended claim 1, therefore the response above regarding claim 1 also applies to claims 3, 11, 12, 13 and 15.

Information Disclosure Statement

The information disclosure statement (IDS) submitted on 6/6/2008 is in compliance with the provisions of 37 CFR 1.97. Accordingly, the information disclosure statement is being considered by the examiner.

Claim Rejections - 35 USC § 101

35 U.S.C. 101 reads as follows:

Whoever invents or discovers any new and useful process, machine, manufacture, or composition of matter, or any new and useful improvement thereof, may obtain a patent therefor, subject to the conditions and requirements of this title.

Claims 23 and 24 are rejected under 35 U.S.C. 101 because the claimed invention is directed to non-statutory subject matter.

Claims 23 and 24 disclose "A program for causing a computer to implement a control method...". MPEP 2106 states "Since a computer program is merely a set of instructions capable of being executed by a computer, the computer program itself is not a process and a claim for a computer program, without the computer-readable medium needed to realize the computer program's functionality, should be treated as nonstatutory functional descriptive material". Claims 23 and 24 do not claim the computer-readable medium needed to realize the computer program's functionality.

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claims 1-26 are rejected under 35 U.S.C. 103(a) as being unpatentable over Sannoh et al. US 2003/0071908 in view of Nozaki et al. US 2004/0207743.

Re claims 1, 13, 23 and 25, Sannoh discloses an image capturing apparatus (digital camera) and method of controlling an image capturing apparatus (digital camera) comprising: a lighting determination unit (CPU 115a) configured to determine whether or not it is necessary to emit light by a light emitting unit (203) upon photographing an object, on the basis of a brightness (photometric value) of the object (page 13, paragraph 195-page 15, paragraph 218; figures 2 and 20-24); an area detection unit (CPU 115a) configured to cause the light emitting unit (203) to emit light, to extract an outline of a captured image of the object that receives light emitted by the light emitting unit (203) and to detect an area occupied by a predetermined shape in the captured image (CPU 115a performs face detection processing), in a case that said lighting determination unit (CPU 115a) determines it is necessary to emit light by the

light emitting unit (when the photometric value is less than a certain threshold) (page 6, paragraphs 9"-102; page 13, paragraph 195; page 14, paragraphs 203-212); and a control unit (CPU 115a) configured to control an image capturing operation to obtain a captured image for the purpose of saving of image data of the object, on the basis of information in the area detected by the area detection unit (CPU 115a performing face detection processing) (page 13, paragraph 195-page 15, paragraph 218). Sannoh further states that the control method disclosed may be executed through the use of a computer-readable storage medium storing a program (page 4, paragraph 69). However, although the Sannoh reference discloses all of the above limitations it fails to specifically state that the auto-exposure and face detection processing includes a pre-light emission operation and that a main light emitting amount is calculated in accordance with a photometry value based on a pre-light emission.

Nozaki discloses a digital camera system including face detection processing and auto-exposure processing. Nozaki states that when the luminance of a subject is less than a given value, a CPU of the camera sets a pre-emitting mode for emitting light prior to shooting and the emission quantity of a main light emitting amount is determined on the basis of the reflected light from the face upon the pre-emission of light (page 11, paragraph 117-page 12, paragraph 120). Therefore, it would have been obvious for one skilled in the art to have been motivated to include a pre-emitting mode for determining a proper emission amount of a main light emission as disclosed by Nozaki in the digital camera including auto-exposure and face detection processing disclosed

by Sannoh. Doing so would provide a means for ensuring that an image of a subject is captured with a proper exposure.

Re claims 2 and 14, Sannoh further states that the camera is capable of detecting a shape of a face of a person in an image captured by the camera (page 6, paragraphs 99-102; page 13, paragraph 195; page 14, paragraphs 203-212).

Re claim 11, Sannoh discloses an image capturing apparatus (digital camera) comprising: an area detection unit (CPU 115a) configured to extract an outline of a captured image of the object that receives light emitted by the light emitting unit (203) and to detect an area occupied by a predetermined shape in the captured image, in a case where a brightness of the object is less than a predetermined value (when the photometric value is less than a certain threshold) (CPU 115a performs face detection processing) (page 6, paragraphs 99-102; page 13, paragraph 195; page 14, paragraphs 203-212); and a control unit (CPU 115a) configured to determine whether or not the light emitting unit (203) emits light based on the brightness of the object (photometry values), and to control an image capturing operation to obtain a captured image for the purpose of saving of image data of the object, on the basis of information in the area detected by the area detection unit (CPU 115a) (page 13, paragraph 195-page 15, paragraph 218). However, although the Sannoh reference discloses all of the above limitations it fails to specifically state that the auto-exposure and face detection

processing includes a pre-light emission operation and that a main light emitting amount is calculated in accordance with a photometry value based on a pre-light emission.

Nozaki discloses a digital camera system including face detection processing and auto-exposure processing. Nozaki states that when the luminance of a subject is less than a given value, a CPU of the camera sets a pre-emitting mode for emitting light prior to shooting and the emission quantity of a main light emitting amount is determined on the basis of the reflected light from the face upon the pre-emission of light (page 11, paragraph 117-page 12, paragraph 120). Therefore, it would have been obvious for one skilled in the art to have been motivated to include a pre-emitting mode for determining a proper emission amount of a main light emission as disclosed by Nozaki in the digital camera including auto-exposure and face detection processing disclosed by Sannoh. Doing so would provide a means for ensuring that an image of a subject is captured with a proper exposure.

Re claims 3 and 15, Sannoh discloses an image capturing apparatus (digital camera) and method of controlling an image capturing apparatus (digital camera) comprising: an area detection unit (CPU 115a) configured to extract an outline of a captured image of the object that receives light emitted by the light emitting unit (203) and to detect an area occupied by a predetermined shape in the captured image of the object (CPU 115a performs face detection processing), in a case where a brightness of the object is less than a predetermined value (when the photometric value is less than a certain threshold) (page 6, paragraphs 99-102; page 13, paragraph 195; page 14,

paragraphs 203-212); a light control area setting unit (CPU 115a) configured to set a light control area of a light emitting unit (203) (flash emission is controlled in accordance with the face detection) in the captured image in accordance with the area detected by the area detection unit (CPU 115a performs face detection processing) (page 14, paragraph 203-page 15, paragraph 218); an arithmetic unit (IPP 104) configured to calculate a main light emitting amount in accordance with a photometry value in the light control area (page 13, paragraph 200-page 14, paragraph 204); and a control unit (CPU 115a) configured to control to photograph the object by controlling the light emitting unit (203) on the basis of the main light emitting amount calculated by the arithmetic unit (IPP 104) (page 13, paragraph 195; page 14, paragraphs 203-212). Sannoh further states that the control method disclosed may be executed through the use of a computer-readable storage medium storing a program (page 4, paragraph 69). However, although the Sannoh reference discloses all of the above limitations it fails to specifically state that the auto-exposure and face detection processing includes a pre-light emission operation and that a main light emitting amount is calculated in accordance with a photometry value based on a pre-light emission.

Nozaki discloses a digital camera system including face detection processing and auto-exposure processing. Nozaki states that when the luminance of a subject is less than a given value, a CPU of the camera sets a pre-emitting mode for emitting light prior to shooting and the emission quantity of a main light emitting amount is determined on the basis of the reflected light from the face upon the pre-emission of light (page 11, paragraph 117-page 12, paragraph 120). Therefore, it would have been obvious for

one skilled in the art to have been motivated to include a pre-emitting mode for determining a proper emission amount of a main light emission as disclosed by Nozaki in the digital camera including auto-exposure and face detection processing disclosed by Sannoh. Doing so would provide a means for ensuring that an image of a subject is captured with a proper exposure.

Re claims 4 and 16, Sannoh further states that the camera is capable of detecting a shape of a face of a person in an image captured by the camera (page 6, paragraphs 99-102; page 13, paragraph 195; page 14, paragraphs 203-212).

Re claims 5 and 17, Sannoh further discloses a focusing unit (CPU 115a controls auto-focusing operations) configured to measure a distance to an object to be photographed (page 6, paragraphs 91-93, page 13, paragraphs 188-189). Sannoh also states that a light control area setting unit (CPU 115a) sets the light control area in accordance with the distance measured by the focusing unit (CPU 115a), and the area detected by the area detection unit (CPU 115a) (the light emission is adjusted according to the auto-focusing operations and the face detection operation (page 13, paragraphs 188-189; page 14, paragraph 203-page 15, paragraph 218).

Re claims 6 and 18, Nozaki states that an irradiation light amount upon the pre-light emission is adjusted on the basis of the distance measured by a focusing unit, a

set aperture value and the sensitivity of an image sensing element (shutter speed and aperture value are calculated by AE calculator) (page 12, paragraphs 118-120).

Re claims 7 and 19, Nozaki states that the emitting light quantity of a light emitting device upon actual shooting is determined on the basis of the reflected light from the face of a subject upon a pre-emitting operation (page 12, paragraph 120). Thus, it can be seen that an arithmetic (CPU) unit calculates an average brightness value based on the pre-light emission in an adjusted light control area, and calculates the main light emitting amount on the basis of the average brightness value.

Re claims 8 and 20, Sannoh states that when a face detection operation mode is set, the arithmetic unit (IPP 104) calculates average brightness values in each of the different respective detected areas and calculates an calculates the main light emitting amount on the basis of the calculated average brightness values (page 14, paragraphs 201-204). Additionally, Nozaki states that the emitting light quantity of a light emitting device upon actual shooting is determined on the basis of the reflected light from the face of a subject upon a pre-emitting operation (page 12, paragraph 120). Thus, it can be seen that an arithmetic (CPU) unit calculates an average brightness value based on the pre-light emission in an adjusted light control area, and calculates the main light emitting amount on the basis of the average brightness value.

Re claims 9 and 21, Sannoh discloses a focusing unit (CPU 115a controls auto-focusing operations) configured to measure a distance to an object to be photographed (page 6, paragraphs 91-93, page 13, paragraphs 188-189). Sannoh also states that a light control area setting unit (CPU 115a) sets the light control area in accordance with the distance measured by the focusing unit (CPU 115a), and the area detected by the area detection unit (CPU 115a) (the light emission is adjusted according to the auto-focusing operations and the face detection operation (page 13, paragraphs 188-189; page 14, paragraph 203-page 15, paragraph 218). Thus, it can be seen that when it is determined that the area set in accordance with the distance measured by the focusing unit (CPU 115a controls auto-focusing operations) does not match the area detected by the area detection unit (CPU 115a sets the face detection area), the light control area setting unit (CPU 115a determines an area to be exposed to a light emission) in accordance with the distance measured by the focusing unit to the area detected by the area detection unit and sets the adjusted area as a light control area (the face detection area is used to control light emission and the camera is adjusted using the auto focus operation so that the face detection area is always an in-focus area).

Re claims 10 and 22, Sannoh further discloses that the distance is adjusted based on a focusing position of a lens (page 6, paragraphs 91-93).

Re claim 12, Sannoh discloses an image capturing apparatus (digital camera) comprising: an area detection unit (CPU 115a) configured to extract an outline of a

captured image of the object that receives light emitted by the light emitting unit (203) and to detect an area occupied by a predetermined shape in the captured image (CPU 115a performs face detection processing), in a case where a brightness of the object is less than a predetermined value (when the photometric value is less than a certain threshold) (page 6, paragraphs 99-102; page 13, paragraph 195; page 14, paragraphs 203-212); and a control unit (CPU 115a) configured to set a light control area of a light emitting unit (203) in the captured image in accordance with the area detected by the area detection unit (CPU 115a), to calculate a main light emitting amount in accordance with a photometry value (IPP 104), and to photograph the object by controlling the light emitting unit (203) on the basis of the main light emitting amount (page 13, paragraph 195-page 14, paragraph 212). However, although the Sannoh reference discloses all of the above limitations it fails to specifically state that the auto-exposure and face detection processing includes a pre-light emission operation and that a main light emitting amount is calculated in accordance with a photometry value based on a pre-light emission.

Nozaki discloses a digital camera system including face detection processing and auto-exposure processing. Nozaki states that when the luminance of a subject is less than a given value, a CPU of the camera sets a pre-emitting mode for emitting light prior to shooting and the emission quantity of a main light emitting amount is determined on the basis of the reflected light from the face upon the pre-emission of light (page 11, paragraph 117-page 12, paragraph 120). Therefore, it would have been obvious for one skilled in the art to have been motivated to include a pre-emitting mode for

determining a proper emission amount of a main light emission as disclosed by Nozaki in the digital camera including auto-exposure and face detection processing disclosed by Sannoh. Doing so would provide a means for ensuring that an image of a subject is captured with a proper exposure.

Re claims 24 and 26, the combination of the Sannoh and Nozaki references discloses all of the limitations of claim 15 above. Additionally, Sannoh states that the control method disclosed may be executed through the use of a computer-readable storage medium storing a program (page 4, paragraph 69).

Conclusion

Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire **THREE MONTHS** from the mailing date of this action. In the event a first reply is filed within **TWO MONTHS** of the mailing date of this final action and the advisory action is not mailed until after the end of the **THREE-MONTH** shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of

the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

Contacts

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Kelly L. Jerabek whose telephone number is **(571) 272-7312**. The examiner can normally be reached on Monday - Friday (8:00 AM - 5:00 PM).

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Lin Ye can be reached at **(571) 272-7372**. The fax phone number for submitting all Official communications is **(571) 273-7300**. The fax phone number for submitting informal communications such as drafts, proposed amendments, etc., may be faxed directly to the Examiner at (571) 273-7312.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

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